

### **REMARKS**

In the Office Action mailed on July 17, 2002, the Examiner rejected claims 38-40, 41 and 44 under 35 U.S.C. §102(b) as anticipated by Ismail et al. The Examiner's indication of allowable subject matter with respect to claim 45 is noted with appreciation.

The Examiner argues that "as taught by Ismail the second strain type may be considered 'relaxed' and the formation of layer 40 above layer 30 results in an increased strain and therefore a reduced relaxation and therefore anticipates the claim language of amended claim [35]." For the reasons that follow, we respectfully traverse this reasoning.

Ismail et al. describes, *inter alia*, a relaxed SiGe layer 40 and, grown thereover, a compressively strained SiGe layer 30. Col. 6, lines 23-29.

The Examiner analogizes the relaxed layer 40 to the claimed graded region.

This is untenable for at least the following reasons:

- The claim calls for a graded region, and Ismail's layer 40 is not graded.
- The claim requires a region incorporating "a first type of strain."

As Ismail's layer 40 is relaxed, it is, by definition, unstrained; that is, it does not incorporate any strain, and therefore cannot fulfill the requirement of having a "first type of strain."

- The claim requires “processing” the graded region to introduce a second type of strain. Growing a layer 30 over layer 40 does not fulfill this limitation, as there is no “processing” of layer 30.
- Even if growing layer 30 over layer 40 did somehow qualify as “processing” layer 40, nothing in Ismail et al. suggests that the compressively strained layer 30 has any effect on layer 40.
- Even if layer 30 somehow introduced strain into layer 40, this still would not fulfill the requirements of claim 35, since the claim requires the induced strain to reduce “the previously incorporated first type of strain.” As Ismail’s layer 40 is relaxed, there is no pre-existing strain to reduce. If anything, the layer 40 would be less relaxed, i.e., more strained — precisely the opposite of the strain reduction that the claim calls for.


We further note that the processing steps cited by the Examiner at col. 6, lines 40-55 of Ismail et al. do not relate to production of any type of strain. Rather, the patent discusses temperature only as it relates to deposition of silicon dioxide, without mention of any effect on strain in any layer.

For these reasons, we respectfully request reconsideration of the outstanding rejections, and submit that all claims are in condition for allowance. Please charge any fee occasioned by this paper to our Deposit Account No. 20-0531.

Respectfully submitted,

Date: August 8, 2003  
Reg. No. 33,497

Tel. No.: (617) 310-8108  
Fax No.: (617) 248-7100

  
\_\_\_\_\_  
Steven J. Frank  
Attorney for Applicant(s)  
Testa, Hurwitz, & Thibault, LLP  
High Street Tower  
125 High Street  
Boston, Massachusetts 02110